

Specification Amendments

Please replace Paragraph 29 (beginning on page 12 as filed) with the following:

[0029] As is depicted in Figures 2 and 8, the locking segment 1 of the present invention may be constructed to fit within a gasket 2 that is configured to fit within any standard mechanical joint without necessitating changes to the configuration of the bell, gland, or spigot. Gasket 2 is an elastomeric or other resilient or deformable material, such as those in the art will understand may be used in the practice of a mechanical joint. A useful configuration of the gasket 2, as shown in Figure 3, is an annular ring with a radially inner surface 4 that is adapted to be in contact with spigot 10, a gland face 7 that is adapted to be compressed by a gland or compression ring 11, a front face 61 that leads in axial insertion, and a radially outer surface, shown in the drawings as having a configuration that does not mate smoothly with the recess seat 43 in a resting state. Particularly, in the shown embodiment, the radially outer surface of the gasket 2 has a compression seat surface 9 at the leading portion of the gasket 2 near the front face 61 that is designed to mate with and seal against an area of the recess seat 43. Also characterizing the shown embodiment is a distortion control surface 62 that in the resting state leads away from the recess seat 43 to form a radially depressed gutter 63, before the profile of the gasket 2 extends once again radially outward to meet the bell 12 in the area of rear seal 64. Accordingly, the radially outer surface in the shown configuration is the entire area between and including the compression seat surface 9 through rear seal 64; stated differently with reference to the drawings, the radially outer surface is in Figure 3 the entire "upward" surfaces of the drawing combined. Although these surfaces are readily distinguishable in the drawings and as discussed herein, ~~though~~ the transition among surfaces may not be as readily apparent in the uncompressed state as in the configuration shown. In the shown embodiments, gasket 2 conforms to all of the requirements of ANSI/AWWA C111/A21.11-95. In particular, for any given

spigot 10, gasket 2 ~~may tends to~~ have a slightly smaller inner diameter than the outer diameter of the spigot 10. Accordingly, placement of gasket 2 over the exterior of spigot 10 ~~typically will~~ may require exertion of force to expand gasket 2 to fit around spigot 10.

Please replace Paragraph 39 (beginning page 19 as filed) with the following:

[0039] As gland 11 continues to advance into bell 12 beyond the point shown in Figure 4, segment 1 begins to rotate. This phase of the assembly operation is the transitional phase and is characterized by a relatively decreasing amount of translational motion of segment 1 and a relatively increasing amount of rotational motion of segment 1. In other words, upper protrusion 17 advances into the bell at a faster rate than teeth 6 for a given input by gland 11. This occurs because the center of pressure of the compression energy stored in the gasket moves closer to the teeth 6 of segment 1 and away from upper protrusion 17 as the gasket is compressed. Rotation of segment 1 at this point is influenced by the gutter 63 and is related to the movement of the center of pressure of the gasket toward teeth 6. Because gutter 63 presents the area of least resistance to compression, and hence to deformation (it being known in the art that rubber tends to deform, ~~but not~~ in preference to compressing), the upper (as seen in the Figures) portion of the segment 1 rotates toward the gutter 63, reducing the size of the gutter 63 as the gasket material deforms into the area.

Please replace the Abstract (Page 31, as filed) with the following:

~~A the present invention may be basically described as a gasket~~ for converting a standard mechanical joint into a restrained mechanical joint without the need for altered configuration of the bell, spigot, or gland of the joint, and without the need for additional fittings or devices. In the practice of the present invention, a standard mechanical joint's bell and gland configuration can be employed to connect a spigot end of one pipe length to the bell end of another pipe length in a restrained relationship, with the restraint based on forces superior to rubber-to-pipe friction. In more particular discussion of the embodiments taught, the invention includes forming the gasket to fit within the bell in such a manner that a void, or gutter, exists during rest, into which void the gasket compresses, which in turn influences the rotational motion of the segment. In this manner, the configuration of the gasket influences the timing and extent of rotation throughout the process of securing the gland to the bell.